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PRELIMINARY INVESTIGATION OF WATER SUPPLY AND WATER QUALITY CONTROL ASPECTS, YAKIMA PROJECT, WASHINGTON, KENNEWICK DIVISION EXTENSION

Public Health Service
Portland, Oregon

December 1961

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COLUMBIA RIVER BASIN PROJECT
For Water Supply and Water Quality Management

PRELIMINARY INVESTIGATION OF WATER SUPPLY AND WATER QUALITY CONTROL ASPECTS YAKIMA PROJECT, WASHINGTON KENNEWICK DIVISION EXTENSION

DATE: December 1961

Prepared by _____

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Public Health Service
Region IX

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Portland 5, Oregon

This working paper contains preliminary data and information primarily intended for internal use by the Columbia River Basin Project staff and cooperating agencies. The material presented in this paper has not been fully evaluated and should not be considered as final.

REPORT ON YAKIMA RIVER BASIN STUDIES

PRELIMINARY INVESTIGATION OF WATER SUPPLY AND WATER QUALITY CONTROL ASPECTS

YAKIMA PROJECT, WASHINGTON
KENNEWICK DIVISION EXTENSION

Prepared at the Request of the
Regional Director, United States
Department of Interior
Bureau of Reclamation
Boise, Idaho

U. S. Department of Health, Education and Welfare
Public Health Service
Water Supply and Pollution Control Program
Pacific Northwest
Region IX, Portland, Oregon

December 1961

YAKIMA PROJECT, WASHINGTON
KENNEWICK DIVISION EXTENSION

Preface

This report presents preliminary impressions relating to municipal and industrial water supply and stream quality control aspects associated with the proposed Kennewick Extension, Yakima Project, Washington.

The project has been viewed from the standpoint of provisions set forth in Public Law 85-500, Title III, Water Supply Act and Public Law 84-660, Federal Water Pollution Control Act, amended 1961 (PL 87-88).

Water Supply

The major municipal and industrial water users in the vicinity of the proposed Kennewick Extension are located in the Richland and Kennewick, Washington areas. These areas, at the present time, are served by waters taken both from underground sources and surface flows of the Yakima and Columbia Rivers.

Project Features

The Kennewick Division Extension (6,300 acres) is located in the extreme lower portion of the Yakima Valley about seven miles west of Richland and about fifteen miles northwest of Kennewick.

The lands within the Extension would be served by waters diverted from the Yakima River at the Prosser Diversion Dam and transported to the

Chandler Canal and thence across the Yakima River to the existing Kennewick Main Canal. From near Kiona, a diversion of 125 cubic feet per second would be made to the irrigable lands of the Extension.

Yakima River water diverted at the Prosser Dam would consist of natural run-off, reservoir storage releases and return flow from upstream land irrigation. During the months of July to October, and especially during the latter part of this period, diverted water would consist almost entirely of irrigation return flow.

Adaptability of Project for Water Supply and Quality Control

Owing to the fact that the cities of Richland and Kennewick are located along the lower Yakima River and the Columbia River where relatively abundant supplies of water are available, no shortage of water to meet future increases in municipal and industrial demand in these areas would be expected. It is believed further that no significant future demand for municipal and/or industrial supply would develop within the Kennewick Division Extension.

It should be pointed out also that the lower Yakima River, during the latter part of the irrigation season, becomes enriched with nutrient and mineral materials leached from upstream agricultural lands. The presence of these materials in combination with certain climatic and temperature conditions could be expected at times to stimulate excessive growths of algae and other taste and odor producing organisms in the

main river channel in the Prosser Pool and along the diversion canals of the project. Raw water in this condition is difficult and expensive to treat for domestic use and often cannot be returned to satisfactory potability. In addition, little is known concerning human consumption of residual insecticides, pesticides and weedicides that can remain in treated waters originating from agricultural land uses.

Conclusions

In view of the relative convenience of the existing sources and the abundance of water of suitable quality available in the Richland and Kennewick area and the belief that municipal and industrial water demands could not be expected to develop within the proposed project area, provision for M&I water supply in the Kennewick Division Extension does not appear justifiable at this time.

Since the Kennewick Division Extension would involve reuse of waters already considered somewhat degraded in quality and the quality of return flows resulting from this reuse could be further reduced, no benefit assignable to the Extension for quality control appears possible.